

small astronomical telescope, and before he had finished he had made about a dozen superb concave mirrors and optical flats. He assisted in building at the Academy high vacuum apparatus for aluminizing mirrors, equipment for measuring low intensities of light, and various other types of laboratory equipment. It is no exaggeration to say that he, as much as any other one person, was responsible for the development at the Academy of a center of research in theoretical and applied optics.

The wartime need for trained engineers recalled Mr. Grant from his retirement, and at the time of his death he was again in the active service of the Westinghouse Company, on duties directly related to the prosecution of the war. His passing is a severe loss to the work on which he was engaged, to the research he had planned with various members of the Academy's staff "after the war," and to the circle of those who knew him as a warm-hearted, helpful, unassuming friend.

STUDENT MEMBERS MEET ON MAY 8

STUDENT MEMBERS OF THE ACADEMY will meet in the Simson African Hall at 2:00 P.M. on Saturday, May 8, 1943. Dr. Robert C. Miller will show motion pictures of animal life in the Galapagos Islands, taken on the Lack-Venables Expedition of 1939.

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YOUNG GOLDEN EAGLES IN THE NEST

Photographed by TELFORD H. WORK and ALBERT J. WOOL

SCAIFE LECTURE ON MAY 12

(See inside page for announcement)

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CALIFORNIA ACADEMY OF SCIENCES

GOLDEN GATE PARK • SAN FRANCISCO

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May Announcement

THE REGULAR MAY MEETING of the California Academy of Sciences will be held in the Auditorium of the Pacific Gas and Electric Company, 245 Market Street, on Wednesday evening, May 12, 1943, at 8:00 o'clock. Following a brief business meeting, the second of the spring series of lectures on The Beauties of Nature on the Walter B. Scaife Foundation will be presented. The speaker of the evening will be Mr. Telford H. Work who will present a colored motion picture taken by himself and Mr. Albert J. Wool entitled:

THE GOLDEN EAGLE

To one whose interests lean toward enjoyment of the many natural features of this ever more complex world in which we live, there is no scene more stirring than that presented by an eagle soaring majestically over the rugged crags and deep gorges which it regards as home. This great bird, symbolic of strength and power, as well as a worthy friend of the agriculturist, is still fairly common in west-central California. Here, in the more remote mountainous regions, it has withstood the onslaught of man better than in many other portions of its range in western United States where, for the most part, it is now rare, its numbers in many places having been reduced even to the point of extermination. This is a regrettable fact in view of the tremendous benefit these birds confer upon the farmer in helping to keep ground squirrel and jack rabbit populations within bounds.

This excellent series of motion pictures was obtained in the Mount Hamilton Range northeast of San Jose. The film shows the procedures followed in locating and studying the nesting sites of the Golden Eagle. Also portrayed are the obstacles to be overcome in reaching the nests and photographing the nestlings at dizzy heights. The nest, eggs, and development of the young from the time of hatching until they leave the nest are shown in natural colors. The concluding portion of the picture shows something of the habits of tame Golden Eagles raised in a human environment.

The photographers are both graduates of Stanford University. It was during their undergraduate days that they decided to pool their common interests in bird study and photography to secure this film which required a year to produce.



APPLICATIONS FOR MEMBERSHIP

NOTICE is hereby given to all Corporate Members that the Council at its meeting of April 16, 1943, approved the applications of Mr. Frank Filice, Mr. J. E. Steinbach, Mr. John H. Thacher, Mr. Alphonsus F. Thamm, Sr., Mr. Alphonsus F. Thamm, Jr., Mr. Harry W. Tracy, and Mr. Wallace F. Wood, for MEMBERSHIP in the California Academy of Sciences. If no objection to the election of these applicants be received at the office of the Academy within two weeks after May 5, they will be considered elected.

WILLIAM M. GRANT, SCIENTIST AND ENGINEER

WILLIAM MAXWELL GRANT, a member of the Academy for over twenty years, was born on a farm in Nova Scotia, November 4, 1879, and died in San Francisco, April 18, 1943.

Eldest of a family of ten children, Mr. Grant's early educational opportunities were meager, consisting of a few years in a country school and two years at Truro Academy. But the young man had a thirst for knowledge that would not be denied, and the end of his formal education was the beginning of a quest for learning that he followed with undiminished zeal to the end of his life.

Having an interest in electricity and mechanics, and an aptitude for mathematics that was akin to genius, it was almost inevitable that he should go into some field of applied science; but the opportunity came in a curious way. Having decided, after a brief career as a rural schoolteacher, that he wanted to "go west," he came to the Pacific Coast soon after the turn of the century, without any job or definite prospect of employment. While standing as one of a group of spectators at the construction site of a large Westinghouse power installation, he fell into conversation with the engineer in charge, and surprised him by giving in a few seconds the answer to a complicated mathematical problem. "Say," exclaimed the engineer, suddenly impressed, "if you can solve problems like that we want you on this job!" Thus began a connection with the Westinghouse Electric and Manufacturing Company that lasted twenty-eight years, during which Mr. Grant came to have charge of some of the largest hydroelectric installations in California and Hawaii. He had an almost uncanny ability to ferret out causes of trouble in electrical and mechanical equipment, and was often referred to as "the ace of trouble shooters."

Quite as remarkable as his professional career was Mr. Grant's pursuit of his private hobbies. Telegraphy, photography, radio, x-rays, and microscopy were taken up in turn, each with the thoroughness characteristic of his nature. When a new field of study interested him, he was never content until he had mastered it.

His work with the microscope was the most far-reaching of these activities, and the one which brought him into association with the California Academy of Sciences. Once when in Lompoc, California, on routine business connected with his profession, he became interested in the great deposit of fossil diatoms found there, bought a microscope, and devoted himself with characteristic intensity to the new world which was thus opened to him. He quickly mastered the physics of the microscope, and was soon engaged in original research, not only on diatoms, but on methods of improving the visibility of microscopic preparations. These interests brought him into contact with Dr. G. Dallas Hanna of the Academy's staff, with whom he became a collaborator, and co-author of the following papers:

Miocene Marine diatoms from Maria Madre Island, Mexico. *Proc. Calif. Acad. Sci.*, Ser. 4, vol. 15, 1926, pp. 115-193, pls. 11-21, 1 text fig.

Brackish-water Pliocene diatoms from the Etchegoin formation of Central California. *Journal of Paleontology*, vol. 3, 1929, pp. 87-100, pls. 11-14.

Preliminary note on a technique for mounting diatoms in realgar and other substances. *Journal of the Royal Microscopical Society*, Ser. 3, vol. 59, 1939, pp. 174-176.

Apparatus for mounting diatoms in realgar and other substances. *Journal of the Royal Microscopical Society*, Ser. 3, vol. 60, 1940, pp. 152-160, 1 pl., 4 text figs.

Mr. Grant left the Westinghouse Company in 1932, and thereafter had more leisure to devote to problems that long had interested him. He started to build a